REMARKS

Applicant thanks the Examiner for carefully considering the present application. Please reconsider the application in view of the above amendments and the following remarks.

Disposition of Claims

Claims 2-14 and 16-20 were pending in the present application. Claims 3, 4, and 19 have been canceled without prejudice or disclaimer. Thus, claims 2, 5-14, 16-18, and 20 are now pending in the present application. Claims 2, 16, and 18 are independent, while the remaining claims depend, either directly or indirectly, from claims 2 and 16.

Amendments to the Claims

Claims 2, 5-8, 16-18 have been amended, and claims 3, 4, and 19 have been canceled, by way of this reply. Claim 2 has been amended to incorporate all of the limitations of canceled claims 3 and 4, to incorporate some of the limitations of claim 5, and to recite a storage for storing an image. Claims 5-8 have been amended to remove limitations that were added to claim 2, from which claims 5-8 depend. Claims 16-18 have been amended to recite a computer readable medium, as suggested by the Examiner. Claims 16 and 18 have further been amended to more precisely claim the present invention. Support for the amendments can be found, for example, in Fig. 1 and the originally filed claims. No new matter has been added by way of the amendments.

Rejections Under 35 U.S.C. § 101

Claims 2-14 and 16-20 of the present application were rejected under U.S.C. § 101 as being directed to non-statutory subject matter. Claims 3, 4, and 19 have been canceled

without prejudice or disclaimer, and claims 16-18 have been amended to recite a computer readable medium, as suggested by the Examiner.

The Examiner asserts that claims 2-14 and 19-20 are rejected under 35 U.S.C. § 101 because the claims "appear to define an apparatus using 'means plus function' claim language. However, the specification does not disclose corresponding physical structure associated with each claim element, and the specification does indicate that the invention may be embodied as pure software on page 28, lines 2-11. Therefore, the claim as a whole appears to be nothing more than a collection of software elements, thus defining functional descriptive material per se." Claim 2 has been amended by way of this reply to recite a storage for storing an image. Because the storage is a tangible structure, claim 2 now recites statutory subject matter under 35 U.S.C. § 101. Accordingly, withdrawal of this rejection is respectfully requested.

Rejections Under 35 U.S.C. § 102

Claims 2-4, 10-11, and 16-19 of the present application were rejected under U.S.C. § 102 (b) as being anticipated by U.S. Patent No. 6,816,611 ("Hagiwara"). Claims 3, 4, and 19 have been canceled without prejudice or disclaimer, and claims 2 and 16-18 have been amended by way of this reply. To the extent that the rejections may still apply to the amended claims, this rejection is respectfully traversed.

Embodiments of the present invention relate generally to an apparatus for image processing to perform an image correction on an image containing a person. Referring to Figs. 2, 4, 5, and 6 as an example, an image processing apparatus according to an embodiment of the claimed invention detects a body portion of a person in an image, and specifies a target area based on the body portion. An image is then generated that has been subjected to image

processing only within the target area, wherein the image processing includes calculating a strength value of each pixel of the unprocessed image based on how near the color of each pixel is to a main color component. By calculating the strength value of each pixel, the pixels that should be corrected can be selected, and the degree to which each pixel needs to be corrected can also be determined. Furthermore, by specifying a target area based on the body portion in which to do the correction, erroneous image processing of colors in other areas of the image that happen to have a similar color as the main color component can be avoided.

Accordingly, claim 2, as amended, requires, in part, "an image generating means for generating an image subjected to a gradation process as an image processing on a target area specified by the target area specifying means," and "a strength value calculation means for calculating a strength value indicating the degree to which the color component of each pixel of the image to be processed is near to the main color component representing the body portion constituting a reference of the target area."

Hagiwara discloses a facial region extraction method for detecting a face in a color image. Hagiwara is fundamentally different from the claimed invention in that the facial region extraction method of Hagiwara stops after detecting a face in the image, and does not perform any image correction. As shown, for example, in Fig. 17, once the detection of the person(s) in the image is completed, the method of Hagiwara is finished. The image processing that occurs in Hagiwara in S101-S108 of Fig. 17 are not correction of the image, but instead, are processing the image to make the detection of a person faster and more accurate.

The Examiner asserts in the Office Action that "an image generating means for generating an image subjected to a gradation process as an image processing on a target area specified by the target area specifying means" is disclosed in Fig. 8, element 81 and column 7,

lines 42-59. However, claim 2 requires that the gradation process occur on a target area specified by the target area specifying means. Furthermore, the target area specifying means of claim 2 specifies the target area *based on a body portion of a person*. Thus, claim 2 requires that the gradation occurs *after* a body portion of a person has been identified in the image, and that the gradation occurs *in the target area*. As shown in Fig. 17, the gradation process S108 occurs *before* a person is detected S119 in the image, and is applied *to the entire image*. In fact, all of the image processing S101-S108 occurs before a person is detected S119, and is applied to the entire image. This is because, as explained above, Hagiwara is only concerned with detection of a person in the image, and not with image correction of a person that is already detected in the image. Thus, Hagiwara fails to show or suggest at least an image generating means for generating an image subjected to a gradation process as an image processing on a target area specified by the target area specifying means, as required by claim 2.

Furthermore, claim 2 requires calculating a strength value indicating the degree to which the color component of each pixel of the image to be processed is near to the main color component representing the body portion constituting a reference of the target area. That is, once the target area is identified based on the body portion in the image, the strength value of each pixel compared to the main color component is calculated so that the pixels that should be corrected can be selected, and the degree to which each pixel needs to be corrected can also be determined. Because Hagiwara is not concerned with correction of the image, Hagiwara does not calculate a strength value of each pixel, as required by claim 2. Thus, Hagiwara also fails to show or suggest at least "a strength value calculation means for calculating a strength value indicating the degree to which the color component of each pixel of the image to be processed is near to the main color component representing the body portion constituting a reference of the target area," as required by claim 2.

In view of the above, claim 2 is patentable over Hagiwara, at least for the above reasons. Claims 10 and 11 are dependent from claim 2. Thus, claims 10 and 11 are patentable over Hagiwara, at least for the same reasons as claim 2. In view of the above, claim 18 is patentable over Hagiwara, at least for the above reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 16 requires, in part, "a step of specifying a target area determined based on a body portion of a person constituting an object in an image," and "a step of generating an image subjected to a gradation process for the target area specified."

Claim 16 requires the gradation process for the target area that is determined based on a body portion of a person. As explained above, in Hagiwara, as shown in Fig. 17, the gradation process S108 occurs *before* a person is detected S119 in the image, and is applied *to the entire image*. Thus, Hagiwara fails to show or suggest at least the above limitations of claim 16.

Claim 16, as amended, further requires, in part, "the step of generating an image comprises calculating a strength value indicating the degree to which a color component of each pixel of the image to be processed is near to a main color component representing the body portion constituting a reference of the target area."

As explained above, because Hagiwara is not concerned with correction of the image, Hagiwara does not calculate a strength value of each pixel, as required by claim 16. Thus, Hagiwara also fails to show or suggest at least "the step of generating an image comprises calculating a strength value indicating the degree to which a color component of each pixel of the image to be processed is near to a main color component representing the body portion constituting a reference of the target area," as required by claim 16.

In view of the above, claim 16 is patentable over Hagiwara, at least for the above reasons. Claim 17 is dependent from claim 16. Thus, claim 17 is patentable over Hagiwara, at least for the same reasons as claim 16. In view of the above, claim 18 is patentable over Hagiwara, at least for the above reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 18 requires, in part, "a step of specifying a position and a range of an area including an arbitrary image in an image," and "a step of generating an image subjected to an image processing in an area having a color component equal or near to a main color component representing an area in the specified area."

Claim 18 requires image processing for a specified area that occupies a position and range within an image. As explained above, in Hagiwara, as shown in Fig. 17, all of the image processing S101-S108 occurs *before* an area is specified in the form of the detection of a person S119 in the image, and is applied *to the entire image*. Thus, Hagiwara fails to show or suggest at least the above limitations of claim 18.

Claim 18, as amended, further requires, in part, "the step of generating an image comprises calculating a strength value indicating the degree to which a color component of each pixel of the image to be processed is near to a main color component representing the body portion constituting a reference of the target area."

As explained above, because Hagiwara is not concerned with correction of the image, Hagiwara does not calculate a strength value of each pixel, as required by claim 18. Thus, Hagiwara also fails to show or suggest at least "the step of generating an image comprises calculating a strength value indicating the degree to which a color component of each pixel of

the image to be processed is near to a main color component representing the body portion constituting a reference of the target area," as required by claim 18.

In view of the above, claim 18 is patentable over Hagiwara, at least for the above reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places the present application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account No. 50-0591, under Order No. 15115/171001 from which the undersigned is authorized to draw.

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Respectfully submitted,

By_____

Thomas K. Scherer
Registration No.: 45,079
OSHA · LIANG LLP
909 Fannin Street, Suite 3500
Houston, Texas 77010
(713) 228-8600
(713) 228-8778 (Fax)
Attorney for Applicant